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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,260	09/25/2003	Dorte Lunoe Dunweber	6546.200-US	6556
23650	7590	12/13/2006	EXAMINER	
NOVO NORDISK, INC. PATENT DEPARTMENT 100 COLLEGE ROAD WEST PRINCETON, NJ 08540			MOHAMED, ABDEL A	
			ART UNIT	PAPER NUMBER
			1654	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,260

Applicant(s)

DUNWEBER ET AL.

Examiner

Abdel A. Mohamed

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,7,8,10-12 and 14-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8, 10-12 and 14-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

#### **ACKNOWLEDGEMENT OF AMENDMENT, REMARKS, SEQUENCE LISTING, STATUS OF THE APPLICATION AND CLAIMS**

1. The amendment, remarks and the sequence listing filed 09/20/06 are acknowledged, entered and considered. In view of Applicant's request claims 1, 7, 8, 10-12, 15, 25, 27, 32 and 35 have been amended and claims 5, 6, 9 and 13 have been canceled. Claims 1-4, 7, 8, 10-12 and 14-37 are now pending in the application. The objections to sequence compliance and claims and the rejection under 35 U.S.C. 112, second paragraph are withdrawn in view of Applicant's amendment, submission of sequence listing and remarks filed 09/20/06. However, the rejection under 35 U.S.C. 103(a) over the prior art of record is maintained for the reasons set forth in the previous Office action.

#### **ARGUMENTS ARE NOT PERSUASIVE**

#### **CLAIMS REJECTION-35 U.S.C. § 103(a)**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 7, 8, 10-12 and 14-37 remain rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/55119 taken with Zivanovic et al (Biomedical Chromatography, Vol. 14, pp. 56-57, 2000).

Applicant's arguments filed 09/20/06 have been fully considered but they are not persuasive. Applicant has argued that the presently claimed invention as amended in independent claim 1 recites that acylating agent is in a solution of the aprotic polar solvent, and acid, and this solution is added to the peptide reaction mixture. Applicant continues by stating that the acylating agent solution is stabilized with an acid. Hansen doesn't describe or even mention this. The only mention of acid in Hansen is for pH adjustment of the basic aqueous solution. This adjustment is performed prior to the addition of the aprotic polar solvent and the acylating agent or after all of the reagents and solvents have been added. Using an acid to stabilize an acylating agent in an aprotic solvent is very different from merely adjusting the pH of a basic solution.

Applicant concludes by stating that the presence of an acid as a stabilizing agent for the

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acylating agent/aprotic polar solvent solution provides an unexpected and highly beneficial result. Table 1 and Example 6 of the present application show that the presence of stabilizing acid (e.g.,  $\text{H}_2\text{SO}_4$ ) significantly and unexpectedly reduces the presence of an impurity,  $\alpha$ -glu, of the peptide acylation, and as such, the changes shown in Example 6 and Table 1 provide significant and unexpected results and benefits is noted.

However, Applicant's arguments are not found persuasive because the Examiner has acknowledged in the previous Office action that the primary reference of Hansen (WO 00/55119) differs from claims 1-4, 7, 8, 10-12 and 14-37 in not teaching the addition of an acid (claim 1) such as sulphuric acid, methanesulphonic acid and trifluoroacetic acid to stabilize the reaction mixture of a solution containing acylating agent as currently claimed in claim 12. Nevertheless, in regard to the addition of an acid such as sulphuric acid, methanesulphonic acid and trifluoroacetic acid to stabilize the reaction mixture of a solution containing acylating agent, although, the '119 patent does not teach the addition of the recited acids, however, the '119 patent clearly teaches on page 11, lines 17-18 by stating the pH value may further adjusted using acids, e.g., acetic acid, and bases; on Example 1, shows the addition of an acid such as 0.2 M hydrochloric acid; Example 6, demonstrates the addition of 1.0 M acetic acid to adjust the pH solution to 8; and Examples 7 and 8 adjusted the pH of the reaction mixtures to 6.0 and 7.45, respectively by addition of 1 M acetic acid. Thus, it is within the ordinary skill of the art to which this invention pertains to select/optimize the appropriate acid (e.g., acetic acid or HCl or  $\text{H}_2\text{SO}_4$ , etc.,) for adjusting and/or stabilizing

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the pH solution (design of choice) which are widely known in the art and widely employed as an adjuster and/or as stabilizer of pH value in a given mixture solution (i.e., in the instant case for adjusting the aprotic polar solvent mixture). Therefore, such selection/optimization of an acid of interest for adjusting the pH of a mixture solution for the intended purpose of having optimum pH clearly would be routine to a person of ordinary skill in the art to which this invention pertains at the time the invention was made.

Although, Applicant argues that unexpected results have been achieved by using sulphuric acid (i.e., H<sub>2</sub>SO<sub>4</sub>) for stabilizing the acylating agent solution with an acid (namely H<sub>2</sub>SO<sub>4</sub>). Nevertheless, the claim (independent claim 1) as currently amended is directed to the limitation that the acylating agent in solution of the aprotic solvent and the acylating agent/aprotic polar solvent solution be stabilized by the presence of an acid (acid is defined only in claim 12). Thus, Applicant's arguments and the above limitation as amended in claim 1 do not commensurate with the scope of the claims (i.e., stabilizing the solution generally with undefined acid which encompasses any and/or all kinds of organic or inorganic acids).

Therefore, for Applicant to demonstrate the unexpected results, the unexpected result showings should commensurate with the scope of the claims (i.e., in the instant application as supported by Example 6 and Table 1 and as argued by Applicant) to H<sub>2</sub>SO<sub>4</sub>. Thus, as argued by Applicant in the remarks filed 09/20/06, Table 1 and Example 6 of the instant specification shows that the presence of a stabilizing acid (e.g., H<sub>2</sub>SO<sub>4</sub>) significantly and unexpectedly reduced the presence of an impurity,  $\alpha$ -glu, of the

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peptide acylation. Hence, limitation of independent claim 1 to such acid (i.e.,  $\text{H}_2\text{SO}_4$ ) would be a way to overcome the rejection of the prior art of record.

### **ACTION IS FINAL**

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### **CONCLUSION AND FUTURE CORRESPONDANCE**

4. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdel A. Mohamed whose telephone number is (571) 272 0955. The examiner can normally be reached on First Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tsang Cecilia can be reached on (571) 272 0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 Mohamed/AAM  
December 8, 2006